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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,247	08/01/2003	Desmond R. Lim	MIT8935ADIV	3305

7590 03/29/2004

Attn: Matthew W. Connors
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EXAMINER	
ALLEN, DENISE S	

ART UNIT	PAPER NUMBER
2872	

DATE MAILED: 03/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/632,247	LIM ET AL.	
	Examiner	Art Unit	
	Denise S Allen	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) *13-25* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 August 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *8/1/3*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election of Invention I (claims 1 – 12) in the Response received on March 8, 2004 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 13 – 25 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Invention (II), there being no allowable generic or linking claim. Election was made **without** traverse in the Response received on March 8, 2004.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: Figure 3B reference 314. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 2 are rejected under 35 U.S.C. 102(e) as being anticipated by Little et al (US 6,411,752).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claim 1, Little et al teach a method of correcting resonance position or the external decay time of a waveguide micro-resonator comprising physically altering by deposition, removal, or growth of material in or around said waveguide (column 9 lines 23 – 32 describes removal of material by laser ablation from the waveguide to correct the resonance position (wavelength)).

Regarding claim 2, Little et al teach the altering of the material occurs on the core of the waveguide micro-resonator (column 9 lines 23 – 32 describes the removal of material from the

waveguide (ring) which is the core of the waveguide micro-resonator as shown in Figure 3B reference 302).

Claims 1, 3, 6, 7, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawachi et al (US 4,900,112).

Regarding claim 1, Kawachi et al teach a method of correcting resonance position or the external decay time of a waveguide micro-resonator comprising physically altering by deposition, removal, or growth of material in or around said waveguide (column 13 line 51 – column 14 line 35 describes growth of material by laser exposure around the waveguide to correct the resonance position (wavelength), the growth is inherent in the conversion of the amorphous silicon film to a polycrystalline silicon film as described in column 10 lines 27 – 36).

Regarding claim 3, Kawachi et al teach the altering of the material (Figures 2D and 2E reference 31) occurs in the cladding (reference 12) of the waveguide micro-resonator (reference 4).

Regarding claim 6, Kawachi et al teach the altering comprises a thermal reaction at temperatures above 100°C (column 10 lines 27 – 57 describe heating the material to a "high temperature" in order to convert the material from amorphous silicon to polycrystalline silicon, therefore the temperature is inherently above 100°C).

Regarding claim 7, Kawachi et al teach the reaction products of a growth are removed after the reaction associated with said growth (column 10 lines 58 – 65 describes the removal of the products of the growth).

Regarding claim 11, Kawachi et al teach the altering results in a change in optical path length in said waveguide micro-resonator (column 14 lines 3 – 29 and Figures 8A and 8B describe the change in the optical path length of the micro-resonator).

Claims 1, 3 – 5, 8, and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Deacon (US 6,324,204).

Regarding claim 1, Deacon teaches methods of correcting resonance position or the external decay time of a waveguide micro-resonator comprising physically altering by deposition (column 28 lines 60 – 65), removal (column 28 lines 47 – 54), or growth (column 28 lines 55 – 60) of material in or around said waveguide.

Regarding claim 3, Deacon teaches the altering of the material occurs in the cladding of the waveguide micro-resonator (column 28 lines 47 – 52).

Regarding claim 4, Deacon teaches the reaction products of a deposition (the metallic film described in column 28 lines 60 – 63) or growth (the photo chromic molecule described in column 28 lines 58 – 60) have different chemical compositions from that of the core.

Regarding claim 5, Deacon teaches the altering comprises a wet chemical reaction (column 28 line 48).

Regarding claim 8, Deacon teaches the reaction products of a growth are left between the core and the cladding after the reaction associated with said growth (column 28 lines 35 – 42 and 58 – 60).

Regarding claim 12, Deacon teaches the altering results in a change in coupling of said waveguide micro-resonator, thus in a change in coupling efficiency and shape of the waveguide micro-resonator resonance (column 28 lines 35 – 42).

Claims 1, 9, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Chu et al (IEEE Photonics Technology Letters).

Regarding claim 1, Chu et al teach a method of correcting resonance position or the external decay time of a waveguide micro-resonator comprising physically altering by deposition, removal, or growth of material in or around said waveguide (Section II. Device Configuration and Theory describes growth of material by UV exposure around the waveguide to correct the resonance position (wavelength)).

Regarding claim 9, Chu et al teach the reaction products of a deposition or growth have refractive indices (page 689 left column lines 9 – 13 indicate the reaction products have refractive indices between 1.4314 and 1.4754) that range from that of the core (Figure 1 caption indicates the core has a refractive index of 1.7825) to that of the cladding (Figure 1 caption indicates the cladding has a refractive indices of 1.45 and 1.0).

Regarding claim 10, the reaction products of a deposition inherently have a graded refractive index profile from that of the core to that of the cladding (the graded refractive index profile is a function of the intensity of the exposure).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Denise S Allen whose telephone number is (571) 272-2305. The examiner can normally be reached on Monday - Friday, 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Denise S Allen
Examiner
Art Unit 2872

dsa

THONG NGUYEN
PRIMARY EXAMINER
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